Individual investors and local bias in the UK: 1870-1935

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Abstract: The paper examines the long run evolution of local bias by UK investors between the 1870s and the 1930s. It uses a large sample of nearly 30,000 shareholders based on 197 sets of share records, a large and representative database of the investor population across sectors and time. It investigates the structure and the evolution of local investment preference between shareholders and the companies in which they invested, as measured by the distance between where they lived and corporate HQ. The study offers evidence of strong initial local investment preference, which declines over time for non-Londoners but remains strong for Londoners until the 1930s. Local investment preference of ordinary security holders was related to the size of the board of directors and, for wealthy investors, was related to the age of the firm. For large firms, local networks between investors and directors appear stronger when director shareholdings and voting rights were important. This study supports the analytical hypothesis of local informal trust networks between investors and directors as a means to overcome informational asymmetries and weak legal protection, and provides evidence that local preference was a means to curb insider opportunism and private benefits of control.

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This paper focuses on geographical investor dispersion and local investment bias in the UK, using data from a large sample of individual investors and covering a historical period of nearly seven decades between the 1870s and the 1930s. It aims to shed more light on this relatively under-researched theme in the history of share ownership. While local investment bias is a standard theme in contemporary financial studies,[1] there is little comparable research in the context of UK economic history.[2]

From the second half of the nineteenth century, after the introduction of limited liability in 1856 (and its extension in 1862), the UK experienced a widening of participation in financial investment. A series of stylized facts have been highlighted in relevant discussions and debates, such as the developed character of UK stock exchanges, the rise of listed companies, the wide dispersion of shareholdings and the so-called gradual divorce of ownership from control. Hitherto, the majority of relevant research has focused on ownership concentration and control by insiders. This paper, by exploring the geographical distribution of shareholders as a whole in relation to firms' headquarters, and not just large shareholders or directors, aims to fill this gap in the literature and to address the extent of local investment preference, changes over time and differences across firms, as well as possible explanations for these trends.

This study offers evidence of strong initial local investment preference, which declines over time. However, there is geographical variation: local preference remained strong for Londoners until the 1930s, whilst it gradually declined over the period for non-Londoners. The geographical investment proximity, as measured by the distance between where investors lived and the firm's registered office, can be viewed as a proxy for informal

[1] Seasholes and Zhu, 'Individual investors'; Petersen and Rajan, 'Does distance matter'; Grinblatt and Keloharju, 'Distance, language, and culture'.
[2] With the exception of Franks et al., 'Ownership'. From our point of view, local investment bias is an interesting question in its own right but it is also related to the discussion with regard to the managerial revolution and could be addressed in the context of weak UK investor protection.

trust. Local investment preference of ordinary security holders was related to the size of the board of directors, and local preference of wealthy investors was related to the age of the firm. As explained below, both relations support the analytical hypothesis of local informal trust networks between investors and directors as a means to overcome informational asymmetries and weak legal protection. Additionally, for large firms, local networks between investors and directors appear stronger when the shareholdings and the voting rights of the latter were important. This is also evidence that local preference was a means to curb insider opportunism and private benefits of control. Investors also appear to be more sensitive to the risk of notionally safe investments (debentures), while the number of cross listings undermined local bias since investors could target locally-listed securities of distant firms.

I

One possible theoretical framework for the structural factors that influence financial development is the so-called Legal Origins Theory or 'law matters' thesis. The initial idea goes back to La Porta et al., who carried out a comparative study between countries with different legal origins with the perspective of the contractual view of the firm. They posited that 'legal protection of outside investors limits the extent of expropriation of such investors by corporate insiders, and thereby promotes financial development'.[3] There are basically two different theoretical insights underpinning this argument.[4] First, in the face of informational asymmetries and monitoring costs, minority investors are willing to pay a higher price to buy corporate securities if formal legal protection from insiders is strong and reliable. Minority shareholders will be more confident in their investments and capital will flow more easily to

[3] La Porta et al., 'Law and finance'; idem. 'Economic consequences', p. 285. For a discussion of the theory of the firm, see Jensen and Meckling, 'Theory of the firm', and Hart, *Firms*.
[4] See La Porta et al., 'Law and finance', p. 1145; Mayer, 'Trust in financial markets', p. 620; Cheffins, 'Does law matter', p. 462; Coffee, 'Do norms matter', p. 2157.

firms. As a result, the historical outcome of legal protection of shareholders would be a larger number of listed firms and more valuable stock markets than would be the case without such legal protection. Second, large and dominant shareholders will need less capital to efficiently monitor managers and thus firms would be expected to have more diffuse ownership. In brief, given that there are private benefits of corporate control, strong legal protection can secure both blockholders against expropriation by managers and minority holders against expropriation by insiders. All in all, law definitely matters, heavily affecting the structure of the financial system.

A considerable number of studies have addressed the above ubiquitous argument, suggesting that the 'law matters' thesis cannot adequately describe the historical diversity of financial development across different countries. From this analytical viewpoint, there are *functional substitutes* for law that could be equally effective (if not more so) in protecting investors. For example, Rajan and Zingales have argued that some historical and cross-country differences in financial development can be explained by the presence of incumbents who oppose financial development (and investor protection) because it breeds competition.[5] Mayer and Franks et al. have suggested that informal trust relations are as important in financial development as more formal legal arrangements.[6] The role of social norms, financial self-regulatory institutions and culture have also been offered as critical factors for investor protection and as genuine substitutes for the law.[7] In practice, financial reality can be quite complex 'because legal rules may sometimes be embedded in a matrix of norms and conventional practices that all interact with and reinforce each other'.[8]

[5] Rajan and Zingales, 'Great reversal'.
[6] Mayer, 'Trust in financial markets'; Franks et al., 'Ownership'.
[7] Coffee, 'Do norms matter'; Cheffins, *Corporate ownership*; Cheffins, 'Does law matter?'; and Stulz and Williamson, 'Culture, openness, and finance'.
[8] Coffee, 'Do norms matter', p. 2156.

The historical experience of the UK has cast additional doubt on the 'law matters' thesis. Despite the fact that the UK has been, and is, a common law country, a number of scholars in economic history share the idea that, at least until the second half of the twentieth century, the UK did not qualify as a protective jurisdiction for minority or outside investors.[9] Given the developed character of UK stock exchanges, the rise of listed companies, the wide dispersion of shareholdings, and the gradually decentralized pattern of share ownership at least from the late Victorian era, the 'law matters' thesis does not seem to offer an adequate explanation of UK financial developments. A number of follow-up studies have attempted to shed more light on this question.

Cheffins has argued that weak legal protection of outsiders was substituted by 'alternative institutional safeguards' supporting demand for small minority holdings in public companies.[10] Foreman-Peck and Hannah also stress the growing number of small scale passive shareholders in late Victorian and Edwardian Britain but, contrary to Cheffins, they argue that the 'evolution of managerial control in the UK was substantially completed before 1914'.[11] Using a sample (of over 300 firms) of the largest UK public companies in 1911, Foreman-Peck and Hannah estimate that directors personally did not own more than 3.5 per cent of the shares, also arguing that a higher return on equity was used as a means of attracting a wider shareholding.[12] Campbell and Turner also make a similar point. Based on a sample of 800 publicly traded companies in the early 1880s, they offer evidence that dividends and informal trust mechanisms played some role in protecting outside investors in an inadequate legal environment.[13] Acheson et al., using data for 890 share records in the

[9] Cheffins, 'Does law matter?'; Campbell and Turner, 'Corporate governance'; Franks et al., 'Ownership'.
[10] Cheffins 'Does law matter?', p. 476.
[11] Foreman-Peck and Hannah, 'Managerial revolution', p. 2; idem., 'Divorce of ownership from control', p. 544; On the other hand, Cheffins argues that the so-called managerial revolution (separation of ownership from control) did not take place before the second half of the twentieth century in the UK. (Cheffins, *Corporate ownership*, p. 252).
[12] Foreman-Peck and Hannah, 'Managerial revolution'; idem., 'Divorce of ownership from control'.
[13] Campbell and Turner, 'Corporate governance'.

second half of the nineteenth century, provide evidence that ownership was separated from control as early as the Victorian era.[14] Franks et al., collecting data for UK firms in 1920 (53 companies) and 1950 (56 companies) also argue that investor protection had little impact on dispersion of ownership.[15]

These findings run contrary to the 'law matters' thesis from a number of different perspectives. They mostly focus on the relationship between managers and individual blockholders or, less often, on the dispersion of ownership. From the above-mentioned literature only Franks et al. discuss the spatial diffusion of ordinary investors, stressing a rather extraordinary finding: for a sample of 26 companies in 1910 (with an average number of shareholders of 320[16]), the proportion of investors living within six miles of firms' headquarters is 56 per cent.[17] This result clearly indicates strong local biases in individual investor preferences, a phenomenon which (under different scale and terms) still appears in contemporary financial markets.[18] For this contemporary research, 'local' investment is defined as shares 'being headquartered near where an investor lives'.[19] The assumption is that a firm's registered office, where directors' gatherings typically take place and where investors can access accounting and legal information relating to a firm's governance and performance, is a much better source of information for investors than the operating plants.

This paper focuses on geographical investor dispersion and local investment bias in the UK. It uses data from a large sample of individual investors and covers a historical period of nearly seven decades between the 1870s and the 1930s. Local investment bias is a relatively under-researched theme in the history of share ownership. This paper, by exploring

[14] Acheson et al., 'Corporate ownership'.
[15] Franks et al., 'Ownership'.
[16] This compares, for example, with an average number of shareholders of 6,177 for the 337 large UK registered companies studied by Foreman-Peck and Hannah, 'Managerial revolution', p.1233.
[17] Franks et al., 'Ownership', p. 4041.
[18] Seasholes and Zhu, 'Individual investors'; Petersen and Rajan, 'Does distance matter'; Grinblatt and Keloharju, 'Distance, language, and culture'.
[19] Seasholes and Zhu, 'Individual investors', p. 1987. The same definition is also used in economic history: Franks et al., 'Ownership'; Campbell and Turner, 'Corporate governance'; Cottrell, 'Industrial finance', p. 91.

the spatial distribution of shareholders as a whole, and not just large shareholders or directors, aims to fill this gap in the literature and to address the extent of local bias, changes over time and differences across firms, as well as possible explanations for these trends.

II

The study of the patterns of local preference (that is, geographical dispersion) of individual share ownership for the nearly seven decades between the 1870s and the 1930s requires a careful sampling of shareholder and stockholder records. The records used in this paper were collected and sampled with two broad aims in mind: first, to include companies from different sectors that reflected the range of investment opportunities available to potential investors; second, to collect information about individuals that reflected the broad spectrum of those who held shares in these companies.[20] The resulting sample includes 197 share records covering a variety of industry sectors, sizes (both in terms of issued nominal capital and of number of shareholders), longevity, location of operations (domestic, foreign, or colonial), type of securities available (ordinary, preference, fixed-interest), and status of companies (private/public).[21] Particular emphasis was put on the geographical variation of the companies, securing a regional mix of operations in England and Wales as well as a mix of

[20] The shareholding data used in this paper is based on data collected under the Economic and Social Research Council project: 'Women investors in England and Wales, 1870-1930' (award no. RES-000-23-1435). A more detailed description of the sampling methods can be found in Rutterford et al., 'Researching shareholding', pp. 11-19 and idem., 'Who comprised'. The sample in this paper extends the database by additionally collecting a series of key corporate performance and governance variables at the firm level.

[21] Sectors are agriculture (tea, rubber, coffee, sugar, tobacco), commercial (breweries, hotels, retail), manufacturing (engineering, steel, food, lighting), financial (banks, insurance, investment trusts), extractive (iron, coal, oil, gold), transport and communications (railways, tramways, telegraph, shipping), and utilities (gas, electricity, water). The sample was weighted by sector to reflect the range of investment opportunities available rather than represent their proportion of investment at the time, otherwise the majority of the sample would have been drawn from railway companies and government securities. See Rutterford et al., 'Researching shareholding', pp. 9-11.

domestic, foreign and empire operations.[22] In this study, the observational unit is the individual investor. In order to achieve a representative population of industries and company sizes as available to potential investors at the time, smaller and unlisted companies were also included in the sample, for which less information was available than for the larger and listed companies. As a result, some corporate performance and governance variables were not available for all of the firms in our sample.[23]

The shareholding records were mostly derived from a company's Form E – an annual statement that companies were required to file under the Companies Acts 1856 & 1862.[24] These Form Es were held either at The National Archives or at Companies House and include a company's detailed equity capital structure as well as a register of all shareholders (including their name, address, occupation or marital status, and the amount of the holding).[25] They were required to be filed within 28 days of a company's financial year end. Our sample includes, where available, one Form E per decade for each company, preferably taken at the start of the decade.[26] For eight of the companies the full range from the 1870s to the 1930s was available. However, in order to include a mix of longevity and sectors – some of which, such as the automotive and oil industries, only emerged towards the end of our period – for the majority of companies we have a shorter range.[27] A full coverage of all shareholdings was

[22] This condition is important for the current study. By domestic, foreign or colonial, we mean firms registered in England or Wales but with domestic, foreign or colonial operations.
[23] Detailed summary statistics of our sample can be found in Table 1 of the online appendix. Panel (a) provides details of our full sample; panels (b) and (c) are subsamples with more information on corporate performance and governance but with less individual observations. Regression analysis in sections VI and VII that examines the determinants of local investment bias is based on all three subsamples. For detailed information on individual investor characteristics see Rutterford et al., 'Who comprised'.
[24] In a few cases, such as Aspley Guise and Woburn Sands Gas Co. Ltd., the shareholder records were located in company archives.
[25] By the 1920s, though, many Form E's did not include occupation.
[26] The choice of early years in each decade was to allow cross referencing with census data, collected in the first year of each decade. A complication was that there were different formats for the Form E's: some companies kept separate shareholder lists for each of their securities and others submitted a joint record. In the case of separate registers we sampled for each list (e.g. creating a separate sample for ordinary and preference shares) while for joint registers we sampled the shareholders once and collected both security types as separate shareholdings.
[27] In order to be able to analyse change over time within as well as between companies, in all but one case (Tempeh Java Rubber Plantation) companies that had at least two shareholding records a decade apart were

not feasible, as the growth of shareholding over the course of the period meant that the registers grew increasingly large over time. Particularly by the 1920s and 1930s some of the larger companies, such as Barclays and Anglo-Persian Oil, had shareholder registers of over 30,000 holders. In order to be able to cover a wide range of companies and years we sampled the shareholdings using random letter cluster sampling. This resulted in samples of between 50 and 195 shareholders per share record.[28]

The key variable for our study is the distance between shareholders' residence and companies' registered headquarters. As a result, we only included in our sample shareholding records for which we were able to determine their location, leaving us with a set of 29,082 holdings spread out over 197 share registers, across different points in time between 1870 and 1930.[29]

Table 1 panel (a) highlights the key investor characteristics in our sample. Using the geographic information system ArcGIS we plotted shareholders' addresses and calculated the distances between their residential locations and those of the company's registered office, the London Stock Exchange, and the nearest local stock exchange that listed the security.[30] Panel (b) of Table 2 reports the geographical breakdown of the investors in our sample and

selected. The distribution of share registers over the period reflects the rise of the total number of securities available on the stock market: for the period 1870s-1900 we have 57 registers, while the period 1900-1930s includes 140.

[28] In order to achieve a reflection of the broad spectrum of shareholders of a company we sampled shareholders from at least three random letters of the alphabet (to reduce the likelihood of sampling directors' families) and starting at a random page within a letter (many companies kept records that started with the existing shareholders and added new shareholders at the end of the letter section).

[29] The total number of shareholdings available was 30,864. In 876 cases the address was left blank, and an additional 570 addresses were either incomplete, ambiguous, or illegible. A further 336 addresses were not located in Britain (including those in Ireland for the whole of our period), which left a total of 29,082. We have included shareholders with a Scottish address in this analysis. The distances between individual shareholders and company registered offices or stock exchanges have been calculated on the basis of the address given in the registers. For some individuals the address was available down to the street level, but most registers just provided the town (in case of smaller towns/villages) or the parish level or post code (for larger towns). In these cases the centre of that town or parish has been used to locate that individual. Distances have been calculated in the geographic information system ArcGIS, and all distances are as the crow flies. This does not reflect real travel distances by road but, in the absence of route-planners for each of our decades, this is the best measure of distance available.

[30] For the purposes of this paper, distance was calculated in a straight line, not taking into account roads, modes of transport or different connections.

compares it with a study by Ellinger and Carter for the *Financial Times* based on 1941 shareholder registers.[31] The latter is over 5 years later than the latest data in our sample but it is the most relevant study that we could use as a point of reference. By and large, our results are in line with those reported by Ellinger and Carter. This provides evidence that our shareholder sample is geographically representative.

[TABLE 1 NEAR HERE]

For the companies in our sample we additionally collected some key performance and governance variables (see the Appendix) to be used in our regression analysis in sections VI and VII. These variables appear as common regressors in related studies. As already mentioned, this type of information was not available for all the firms in our sample. For our full sample (shown in panel (a) of Table 1 of the online appendix), we were able to sample the *age* of the company at the time of the investment (calculated by subtracting the year of incorporation from the register's date); the *size* of the company either based on the number of shareholders or issued nominal capital; the presence of *uncalled capital*; the *nominal value of the share*; the *number of stock exchanges* on which the security was listed;[32] and the nominal *value of individual investment*. The majority of the information was available on the Form E and has been cross-checked with the Stock Exchange Official Intelligence (SEOI).

For 115 share records of our sample we additionally collected information about the *number of directors* in charge of the company in the year of the sampled share register and the titles they held (if any); the value and type of shares that a shareholder was required to hold in order to qualify as a director (*directors' qualifications*); and the *voting structure* of

[31] Ellinger and Carter, 'How many investors are there?'.
[32] A full list of UK stock exchanges (LSE and provincial stock exchanges) during the period under consideration in this study can be found in Edelstein, *Overseas investment*, p. 56.

the body of shareholders, which could either be linear (votes reflected shares) or graduated (up to 10 shares 1 vote, between 10 and 100 shares 2 votes etc.). This additional corporate governance information was only available for companies listed in the SEOI, and as a result these factors can only be tested on a subsection of our data.

Another subsample of 74 share records further includes *price* and *dividend yields* of each security during the year sampled and over the previous 3 years. This was based on the price and yield stated in the December issue of the Investor's Monthly Manual (IMM). Where this information was unavailable in the IMM but was listed in the SEOI we have included the SEOI value.[33] This subsample is rich in information on corporate performance and governance variables but contains less observations on individual shareholders and is without any firms in the first two decades (1870s and 1880s) of our period of investigation. A detailed description of all these variables and the sources can be found in the Appendix to this paper.

III

Table 2 provides information relating to the distance between the residence of individual investors and the registered headquarters of the company in which they invested. Our findings, which cover nearly seven decades between 1870s and 1930s, reveal the same local biases[34] as those reported by Franks et al. for their 1910 sample.[35] The local investment bias is indicated by the fact that the median distance is significantly lower than the mean in all cases. In other words, the geographical distribution of investors around firms' headquarters

[33] In the cases where both were available these were generally very similar values – however IMM was preferred.
[34] As explained above, the term 'local bias' is a theoretical concept referring to the concentration of investors around firms' registered headquarters. It does not refer to any statistical bias in our sample.
[35] Franks et al., 'Ownership'.

presents a strong positive skewness indicating a concentration around headquarters. This local investment preference persists in all security types or sectors, as shown in the rows of Table 2. Investors' geographical concentration around firms' headquarters is also captured by the last three columns of Table 2 that calculate the percentage of investors who lived within a small radius of firms' headquarters. Victorian and Edwardian investors tilted their savings towards local firms to a significant extent: about 40 per cent of them on average lived within 25km of the firm's registered office and about 25 per cent within a distance of 6km.[36] While this tendency was similar across security types and sectors, in Table 2 the overall geographical concentration was noticeably higher for the holders of private and unlisted securities (debentures usually fell into this category) and investors in utilities (which all had domestic, regional spheres of operation).[37] Table 3 shows the local investment preference from an alternative angle, grouping companies by the county in which they were based. As expected, a significant part of their investor base came from the same county.

[TABLES 2 and 3 NEAR HERE]

We calculate that the average concentration of shareholders within 10km of firms' headquarters was 30.8 per cent for the whole period between the 1870s and the 1930s. This estimate is considerably lower than the average number of 56 per cent offered by Franks et al. for their 1910 sample (for the same distance: 6 miles), which contains only firms listed on the LSE.[38] In our sample, about 20 per cent of owners of LSE-listed shares in the 1910s lived

[36] In most of our calculations in the rest of the paper (including our regressions) we have chosen the distance of 25 km to represent 'local'. This definition allows us to avoid confusion between actual shifts in local investment bias and changes in the population density around central city districts due to the geographical spreading out of urban populations (including the shareholders) during the investigated period. Even in the largest city in our analysis, London, the vast majority of this development took place within the radius of 25 km (see Clark, 'Urban population densities', p. 493).
[37] Rutterford et al., 'Who comprised', p. 187.
[38] Franks et al., 'Ownership', p. 4041.

within a range of 10km; this calculation differs significantly from Franks et al.'s 56 per cent figure.[39] In our view, Franks et al. overestimate local bias because their sample contains small firms with an average total of 320 shareholders (compared with Foreman-Peck and Hannah's estimate of 6,177 for 337 companies in 1911).[40] In Table 4 (see in the next section below), we note that Franks et al.'s estimate agrees with our local bias estimate for small domestic firms (size lower than £100,000). Thus, a sample with small-sized firms is expected to have a higher local bias in the geographical concentration of their investors.

According to the literature on local bias, local preference in investment choice is the result of individuals trying to overcome informational asymmetries or even paucities of information.[41] If investors lived close to headquarters, many of them 'would have had personal knowledge of the proprietors and their businesses or would at least have been personally familiar with the business environment in which the company is operating'.[42] In the above-mentioned context of inadequate legal protection of outsiders during the period under investigation, local investment bias could be expected to substitute for the lack of formal security for investors. Franks et al. additionally argue that local investment preference is a clear sign of the establishment of an 'informal trust relationship' between ordinary investors and firm directors.[43] Local investment bias can thus be seen as an early form of risk reduction, achieved by developing special relationships with the firm or participating in the already existing local business networks around directors. Given the lack of formal protection, local bias could possibly be an additional explanation of the rise in demand for corporate securities, if geographic proximity were seen as a means of curbing insider

[39] Franks et al., 'Ownership', p. 4041.
[40] Franks et al., 'Ownership', p. 4010; Foreman-Peck and Hannah, 'Managerial revolution', p. 1223. The latter also mention that the numbers of shareholders ranged widely: 'from only 170 [...] up to 79,400 [...]' (ibid.).
[41] Petersen and Rajan, 'Does distance matter', p. 2533; Seasholes and Zhu, 'Individual investors', pp. 1987-8; Cheffins, *Corporate ownership,* p. 42.
[42] Cheffins, *Corporate ownership,* p. 42.
[43] Franks et al., 'Ownership', p. 4040. For a similar point see also Campbell and Turner, 'Corporate governance', and Petersen and Rajan, 'Does distance matter'.

opportunism. This is evident in the case of the holders of private and unlisted securities where information asymmetries were relatively higher due to the illiquid character of these securities (see Table 2). For these securities, almost 50 per cent of investors lived within 25km of the company's registered office and almost 35 per cent of them within 6km.

There is a growing literature emphasizing the role of trust in financial transactions.[44] Traditionally the concept of trust has been associated with discussions around 'social capital' and its economic implications.[45] In the light of these debates, the term 'trust' can also take an additional twist: it can signify non-calculative shared norms, values and modalities of action that promote economic cooperation.[46] Regardless of investors' attitudes towards market asymmetries, local bias may also be the outcome of a particular investment culture which may have favoured local security holdings for reasons that are not necessarily explained by cost-benefit analysis. For instance, in the Arnold Bennett novel *Anna of the Five Towns*, first published in 1902, we find the following description of the portfolio of local securities that Anna's father had bought with his dead wife's inheritance, and which he was handing over to Anna on her 21st birthday:

> He was proud. They were the finest in the market, the aristocracy of investments, based on commercial enterprises of which every businessman in the Five Towns knew the entire soundness. They conferred distinction on the possessor, like a great picture or a rare volume. They stifled all questions and insinuations. Put before a jury of the Five Towns as evidence of character, they would almost have exculpated a murderer.[47]

[44] To mention but a few: Lamoreaux, 'New England case'; Becht et al., 'Shareholder activism'; Petersen and Rajan, 'Does distance matter'; Grinblatt and Keloharju, 'Distance, language, and culture'; Guiso, Sapienza, and Zingales, 'Trusting'.
[45] Despite the enormous literature on trust and social capital, there is no general agreement about the content of these terms and the differences become even more striking among different disciplines in social sciences. For a summary of relevant viewpoints see: Mayer, 'Trust in financial markets', Dasgupta and Serageldin, *Social capital*, Fukuyama, 'Social capital', and Glaeser et al., 'What is social capital'.
[46] Mayer, 'Trust in financial markets'; Fukuyama, 'Social capital'; Stulz and Williamson, 'Culture, openness, and finance'.
[47] Bennett, *Anna*, p. 46.

The passage above may capture the investment spirit of the time. The father placed his trust in local firms for two separate reasons. First, he was as sure about their economic soundness as any other local businessman.[48] This is in line with the standard explanation that investors tilted their portfolios towards local firms to protect themselves against significant market asymmetries and related manipulation by insiders. At the same time, the passage also reveals a possible second element in local bias: local shares were also prestigious assets. Their holders enjoyed a special social status and recognition in the context of shared norms and investment cultures. This view may offer an additional explanation for local bias.[49]

IV

The local investment bias we have observed in our sample followed a declining pattern over time. Table 4 reports these changes. Despite small differences across security types and sectors (panel a), the overall local concentration of security holders (i.e. the percentage of investors living within 25km of company registered offices) fell from 70 per cent in the 1870s to 35 per cent in the 1930s (first column of Table 4a). The trend for ordinary shareholders closely reflected the overall pattern. Local concentration of investors in unlisted securities and debentures remained higher throughout the period, but also followed a similar declining trend. Panel (b) of Table 4 reports the pattern of local bias for domestic and non-domestic firms that belong to different size bands. Smaller firms showed higher local investor

[48] For instance, a 1911 text advised investors: 'it is a good principle to remember that if an enterprise is really very promising, money will somehow be found locally, by those who have seen it with their own eyes' (cited in Cheffins, *Corporate Ownership*, p. 211).

[49] The passage offers some evidence in favour of our perspective. There also a growing literature emphasizing the importance of narrative theory in business history: see Hansen, 'Narrative approach'. In this paragraph we described our explanation of local bias. In what follows we will use the two terms interchangeably denoting the same effect.

concentration, while differences between domestic and non-domestic firms were typically not particularly important. Thus, regardless of size, local investor bias declined with time except for very large domestic firms where local concentration of investors remained at the 30% level during the whole time period. Since improvements in corporate law were not major during the period[50] and local bias was not translated into superior returns (according to our own calculations), the question regarding the decline in local investment preference, and, thus, the de-localization of 'trust', remains open.

[TABLE 4 NEAR HERE]

There may be several reasons for this historical trend. The revolution in communications, with the gradual introduction of the telegraph and the telephone (the latter especially after the turn of the century) in security transactions, significantly reduced the information asymmetries between regional exchanges and the London Stock Exchange, making ordinary investors more easily to break with local bias.[51] According to Michie, this development opened up the possibility of a single market in securities that 'would correspond to national, rather than to local, supply and demand conditions'.[52] At the same time, various innovations may have also changed the perception of proximity among investors: technological advances (especially those related to transportation) might have reshaped the scale of 'local' in people's minds.[53] Several financial innovations, like the gradual adoption of diversification, as well as other institutional developments in security trading such as the decline of uncalled capital, lower nominal share values and cross-listing, may have also

[50] Cheffins, 'Does law matter?'; see also our discussion in section I.
[51] Michie, *Stock exchanges*, pp. 8-14.
[52] Michie, *Stock exchanges*, p. 10. See also Rutterford, 'International diversification'.
[53] For example, Rutterford, in 'The shareholder voice' (p. 130), cites the Midland Railway Company as laying on special trains to the annual general meeting in Coventry for those investors living in Manchester and London.

influenced investors' attitude towards risk and market asymmetries, making ordinary investors more tolerant to distance.[54] Finally, cultural changes in the perception of the investment process should also be taken into consideration. The rise of the importance of stock exchange transactions (the establishment of the so-called 'equity culture') and the growing encouragement to diversify internationally by publications such as *The Financial Review of Reviews* in the first decade of the twentieth century may well have eroded the prestigious character of local holdings and possibly made people more comfortable with holding the securities of distant firms. As the number of securities listed on the London Stock Exchange increased, the number of financial periodicals grew – from 19 in 1874 to 109 in 1914 – boosted by cable communication, the growth in the number of limited liability companies and the increased demand for prospectus advertising.[55] Investors were gradually more guided by sources of advice in their investment behaviour and this might also have affected their reliance on local trust networks. The growing involvement of women as shareholders in various kinds of enterprise might also have added to the decline in local bias.[56]

There were also some improvements in corporate disclosure in the early 1900s. For instance, 'the Companies Act 1900 obliged companies to appoint an auditor but did not require that the auditor be professionally qualified'.[57] At the same time, the Companies Act 1907, the provisions of which became operative in 1908, requested companies, which distributed shares to the public without prospectus, to prepare a statement in lieu of

[54] The establishment of the 'equity culture' (Hannah, 'Global trends', p. 406) may have developed certain norms among investors and principal actors in corporate governance in line with workings of free markets (Coffee, 'Do norms matter'; Stulz and Williamson, 'Culture, openness, and finance'). At the same time, we should also take into account the gradual rise of financial innovations, such as diversification after the turn of the century (see: Rutterford, 'International diversification', Goetzmann and Ukhov, 'Portfolio theory approach', Foreman-Peck and Hannah, 'Managerial revolution', p.6).
[55] See Porter, 'A Trusted Guide', p.1. These figures do not include the 'bucket shop' newspapers which had largely disappeared by the 1890s. Jefferys, *Business organization*, p. 355.
[56] See Rutterford et al., 'Who comprised'.
[57] Cheffins, *Corporate ownership*, p. 195.

prospectus.[58] 'Companies also became obliged from this point onwards to file publicly a balance sheet, but little guidance was offered to companies on the format to be used and there was no requirement to file a profit and loss account, meaning that companies were not under a statutory onus to provide data on current earnings'.[59] Part of the decline in local bias might have been influenced by this minimal improvement in protection to outside investors. Nevertheless, such improvements in corporate disclosure were inadequate and changed very gradually from 1900 to 1940 so protection of outsiders remained scant.[60]

Table 5 reveals the importance of London[61] as an economic centre. Throughout the whole period, London residents had a strong preference for local firms: about 80 per cent to 90 per cent of London-based investors did not allow their investments to extend beyond London registered firms (including foreign and empire firms which for our sample were all registered in London). London investors thus maintained a strong local bias contrary to the typical non-Londoner whose local bias declined substantially over time. For example, in the 1870s, investors from the rest of the UK showed a significant local preference in their investments, as 64 per cent of them chose local firms (within 25 km).[62] This number was reduced to 16 per cent nearly seven decades later.[63] This outcome is further supported by the

[58] Cheffins, *Corporate ownership*, p. 196.
[59] Cheffins, *Corporate ownership*, p. 196.
[60] See Edwards (*Financial accounting*, p.128) and Cheffins (*Corporate ownership*, p. 195). According to Musacchio and Turner (*Does the law*, Table 4), anti-director rights index, ex post private control of self-dealing and creditor protection index did not vary between 1900 and 1950.
[61] In order to accommodate London's growth over this time, our definition of London has been constructed differently pre-1900 and post-1900, consistent with 'zone 1' and 'zone 2' as defined by the 1921 UK census. Pre-1900 London is restricted to the administrative county of London (the City of London plus the 28 metropolitan boroughs), while post-1900 it has been extended to include the administrative districts that fall roughly within a 10-mile radius of Charing Cross.
[62] From the late 1870s UK stock exchanges were in constant telegraphic contact suggesting the existence of a competitive national market (Edelstein, *Overseas investment*, p. 57). Around 1900 inter-market communication was replaced by a private telephone wire (Michie, *Stock exchanges*, p. 14). Local investors outside London had different investment alternatives for distant firms from the 1870s.
[63] The broad outlook of non-London investors is evidenced in the information published in local newspapers. For example, the *Sheffield Daily Telegraph* of 1 January 1870 included price lists for British railways, some foreign railways, and London-registered companies including Crystal Palace, London General Omnibus Company, and Anglo-American Telegraph (p.3). By 1 April 1903, the Manchester Courier and Lancashire General Advertiser (p. 4) included prices for British domestic, empire and foreign stocks and railway securities; for African and Australian mining shares; for prices of shares in all LSE listed sectors; and for share prices of listed securities and details of deals done for unlisted securities from the Manchester Stock Exchange.

third column in Table 5. Local bias declined significantly for firms with registered headquarters outside London. For those firms, 84% of investors were living within 25km of the company's registered office in the 1870s; this figure fell to 30% in the 1930s. The point thus remains: local investment bias gradually became a London habit. It was stronger amongst London investors than amongst the investors in the rest of the UK. As mentioned by Edelstein: 'familiar with local business through the newspapers, consumption, and work activities, the London investor was probably more easily, and therefore more cheaply, convinced of the worthiness of an investment in a local enterprise'.[64] The predominant position of London as an economic hub provides additional insight into the discussion of local bias and trust that has not been captured by existing research.[65]

[TABLE 5 NEAR HERE]

The rise of provincial stock exchanges from the second half of the nineteenth century has often been interpreted as an attempt by firms to attract local investors 'playing an important role in the development of trust between directors and investors'.[66] Campbell and Turner offer some evidence that local listing established a positive relation between the value of the firm and the size of the board of directors in the Victorian era.[67] According to the authors, a larger board of directors could support a greater size of local trust networks, thereby enhancing the value of the firm. In our sample, the majority of listed securities were listed on local stock exchanges, with many of them preferring cross listings.[68] This is evidence in favour of the above reasoning. The geographical distribution of individual

[64] Edelstein, *Overseas Investment*, p. 53.
[65] An implication of that, for instance, could be that samples containing London headquartered shareholdings will tend to overestimate local bias.
[66] Franks et al, 'Ownership', p. 4040; Edelstein, *Overseas Investment*.
[67] Campbell and Turner, 'Corporate governance', p. 592.
[68] Information about the security cross listings in our dataset can be found in Table 2 of the online appendix.

investors in relation to the nearest stock exchange on which their securities were listed[69] is similar to their distribution in relation to firms' headquarters. Or, in other words, a local listing was a motive to invest in local firms. This is clear from Table 6 which shows results similar to those of Table 4.

[TABLE 6 NEAR HERE]

However, investor concentration around the nearest stock exchange (on which their securities were listed) is more clustered than for registered offices. From an initial concentration of 52.4 per cent, by the 1920s roughly 42 per cent of investors continued to live within a close distance (25km) of the nearest exchange on which the security was listed. Despite a significant decline, local bias in relation to securities markets remained quite high, higher than the numbers in Table 4. The greater persistence of local concentration levels can be explained by the fact that some firms gradually cross-listed their securities on different exchanges. If investors decided to invest in a distant firm, they would probably choose one whose securities were listed on a local market. Table 7 reports the bias related to the London Stock Exchange for each decade. Throughout the period, London absorbed the vast majority of UK investments for this sample of shareholders: more than 95 per cent of Londoners and more than 80 per cent of non-Londoners held an LSE-listed security.[70] The differences between the economic and financial geographies of London and the rest of the UK are

[69] We do not know, however, if the nearest stock exchange on which the security was listed was the one actually used by the investor in the case of a cross-listed security.
[70] While 'local investors were automatically involved' in long-term finance of local firms, larger issues were gradually targeted at the LSE given the depth of the London market and the relative advantage of its specialised services (Edelstein, *Overseas investment*, pp. 57-8)

striking. As with registered offices, our analysis of local investment bias with respect to stock exchanges reflects the predominance of the London market, in particular as time went on.[71]

[TABLE 7 NEAR HERE]

V

So far, our analysis has investigated local investment bias with respect to the geographical distribution of individual investors. Panel (a) of Table 8 shows the geographical distribution not of investors but of *investment* (the *value of individual investment* as it is defined in the Appendix), for several types of security categories of firms registered in London and in the rest of the UK. Again, the difference between the mean and the median of individual investment is a clear sign of skewness, which implies the same local bias in its geographical distribution. This gap between the mean and the median persists for different security types in firms with London and non-London headquarters. The last three columns of Table 8 (a) report the concentration of investment within 6km, 10km and 25km of firms' registered offices. Almost 50% of total investment came from local investors for London-based firms; the equivalent figure was 42% for firms registered in the rest of the UK. These numbers are higher than the local concentration of investors reported in Table 3. The same result holds for all security types with the exception of debentures issued by non-London firms.[72] The fact

[71] The overall trends in local bias remained the same between men and women. While women represented just a small proportion of investors in the 1870s, only 15% by number, women gradually increased in importance as investors, reaching 45% by number by the 1930s. However, the average size of individual investment for women was much lower than for men throughout the period, but the difference declined over time. A significant proportion of investors of both genders remained within a small distance from firms' headquarters. There is no indication of a different behavioural pattern in relation to gender.

[72] On further investigation, the debentures of London-based firms were railway debentures which were likely to be held by City of London-based trustees or by London-based investors as trustee stock. The two non-London based companies represented a very small sample.

that local investment was more concentrated than for local investors implies that investors with higher investment holding values (i.e. higher stakes in the firms and probably wealthier) showed higher local investment preference.[73]

[TABLE 8 NEAR HERE]

This outcome is also clear from panel (b) of Table 8. The top 25% of investors by value of holdings (i.e. the wealthier investors) account for the vast majority (over 80%) of the investment in firms regardless of firm size. The majority of this top 25% investment comes from local investors, while a considerable proportion derives from London. From Table 8 panel (b) we can also see that, for the top 25% of local investors, the difference between their investment contribution to the firms and their importance as a percentage of the total number of investors also supports the finding that people with higher value individual holdings were more inclined towards local firms. This finding is in line with our theoretical assumption that informational asymmetries were the main drivers of local investment bias.

VI

This section attempts to identify possible factors that influenced the geographical diffusion of investors observed in earlier sections. It focuses on the investor level and explores econometrically the local investment preference of individual investors in relation to a series of explanatory variables as they are defined in the Appendix to this paper.[74]

[73] As we mention below, this outcome is further supported by our regression results.
[74] This type of question is in line with contemporary research on local bias: see Seasholes and Zhu, 'Individual investors'; Petersen and Rajan, 'Does distance matter'; Grinblatt and Keloharju, 'Distance, language, and culture'. Our choice to proceed with regressions at the investor level is also justified by Grinblatt and Keloharju (ibid, p. 1057). In our regression specification we use explanatory variables observed at three different levels: the firm level (share record), the security level and the individual investor level. To avoid statistical biases in the

In relation to the above analysis and empirical findings, we define local bias as a dichotomous qualitative variable. For every individual investor in our sample, there is either local investment preference or not. This type of research question suggests a binary regression model (we choose a logit specification), where the dependent variable is a dummy: it takes a value of 0 if the investor lives within 25km of a firm's registered headquarters (indicating local bias) and the value of 1 elsewhere.[75]

In our econometric specification we follow the perspective of the individual investor. The structure of our dependent variable in the logit regression models allows us to ask the following question: what made investors *break with* local investment preference? The coefficients in the logit model capture the marginal effects of an infinitesimal change in the explanatory variables on the odds (likelihood) of observing loss of local bias.[76] The analytical list, description and sources of the explanatory variables can be found in the Appendix to this paper, whilst details of their collection and sampling were given in section II.

Regression results for our multivariate models of local bias are reported in Table 9. Since information on all the explanatory variables was not available for all the firms in our

calculation of standard errors, we need to relax the homoscedasticity assumption and allow the error terms to be heteroscedastic and correlated for the explanatory variables that vary within share records. In our regressions we have followed the canonical method of clustered standard errors; the robustness of the results has also been checked using a nonparametric block bootstrap which is also suggested by the literature (for a summary, see Angrist and Pischke, *Mostly Harmless Econometrics*). The grouping of data at the firm level would raise critical issues of aggregation (in most cases aggregation would not be meaningful), discarding information and not allowing us to test important relationships. Moreover, as is typically accepted in the literature, the un-weighted grouped standard errors are not reliable, whilst weighted aggregation could not be used because not all regressors are fixed at the company (group) level and would not make much sense in the logit specification (ibid.). The reader can find in Table 4 of the online appendix to this paper some preliminary regression analysis at the firm level (due to the issues mentioned above, we were not able to use all the explanatory variables). In what follows, the reader should bear in mind that regression analysis cannot demonstrate causality; it assesses correlation.

[75] Cottrell, *Industrial Finance*, in an early survey of geographical bias in the 1860s and 1880s, chose 10 miles as a cut-off point. Franks et al. also use 6 miles as a cut-off point but find, in 1900, a median distance of 15 miles (24km) from the registered office for their 1900 sample. Given the long time period we are covering and the increasing geographical spread of cities like London, we have chosen a cut-off distance of 25km (15.5 miles). See also our comment in footnote 36.

[76] In the logit model, the logarithm of the odds to break with local bias (that is, the probability for an investor to break with local bias divided by the probability not to break) is regressed against a series of explanatory variables. While the signs of the coefficients capture the positive or negative effect of the correlation, the interpretation of the coefficients is different from regular OLS models.

full sample, as we move from model (1) to (9) we are left with less individual investor observations but more information on firm governance and performance.

[TABLE 9 NEAR HERE]

Table 9 does not show a statistically significant effect for company *size* and this result is consistent across the various model specifications. However, the *age* of the firm seems to have a small negative effect for the top 25 per cent of shareholders (according to the value of their investment): older firms had a slightly higher probability of having local wealthy investors with large stakes. One possible explanation is that, the older the firm, the greater was the initial local bias of people with large investments preferring to be close to directors' meetings at company headquarters. Stickiness of shareholdings over time would mean it took longer for this local bias to disappear.[77]

The regression results relating to the number of *company directors* further endorse the possible existence of local trust networks between directors and investors. Table 9 shows a negative relationship between the number of directors and the geographical dispersion of either all investors or the holders of ordinary shares. The results are also statistically significant for directors with titles. Interpreting these results, an additional director on the board reduced the odds to break with local preference by roughly 5 per cent. The same effect seems to be stronger for every additional director holding a (prestigious) title. Directors with titles were more likely to be respected (and thus 'trusted') than local directors.

According to Campbell and Turner, local bias implies *informal* trust relations and some sort of acquaintance between investors and directors that also serves as a means of

[77] See Rutterford, 'International diversification'.

outsiders protection (a substitute for weak formal protection).[78] This is also in line with Franks et al.[79] In Table 9, it seems that an increase in the number of directors is positively associated with local investment bias. A possible explanation might be that more people on the board could accommodate a larger size of local informal networks as a means to overcome informational asymmetries.[80] According to our results, the effect is more likely to exist among holders of ordinary shares, in which risk was higher when compared with preferred shares and debentures.

Most of the firms in our sample, even relating to registers in the nineteenth century, cross listed (some of) their securities on more than one stock exchange. Table 9 reveals a statistically significant negative relationship between the *number of stock exchanges* on which a security was listed and local investment preference that survives across different specifications. An additional cross-listing increased the odds of undermining local trust by roughly 14 per cent. Investors were probably more willing to break with local bias if there was a local (cross-)listing of the distant firm in which they were planning to invest. After the 1900s, a considerable number of securities are listed on 2 or more stock markets.[81] This increase overlaps with the general decline in local bias as shown above. This relationship is also statistically significant in our regression results. In our background regression analysis, when we repeated the same type of regressions for the local bias in relation to the nearest stock exchange (from investor residence), on which the security was listed, there was a statistically significant negative relation with the *number of stock exchanges*. These negative signs can be explained on the same basis as can the positive signs in the specifications of Table 9: the increase in the number of cross-listings brings security markets closer to

[78] Campbell and Turner, 'Corporate governance', p. 592.
[79] Franks et al., 'Ownership'.
[80] This finding actually suggests that the formation of informal trust networks around directors causes a relatively survival of the local investment bias.
[81] In the online appendix, Table 2 provides more information on the development of cross listings per security type and decade in our dataset.

investors distant from firms' headquarters, thereby increasing the probability of local bias with respect to the local stock exchange.[82]Risk, captured in the volatility of security prices, is expected to make investors less willing to overcome local preference. We define risk in the same way as Foreman-Peck and Hannah, that is, 'by the dispersion of the share price-difference between highest and lowest share price for the year, normalised by the average of the two'.[83] Our findings are partially contrary to the above hypothesis and rather counterintuitive. Price volatility is statistically significant and positively related to geographical dispersion for shares (both ordinary and preferred) but negatively related for debentures. This means that higher price volatility was a motive for someone to keep local investment preference only for fixed income securities, which were considered as a relatively safer investment. In other words, investors seemed to have been (more) risk averse only for less risky investments. Price volatility may have been ignored in practice if investors felt sure about the survival of the company.[84] Our findings support this perspective, although revealing a sensitivity to price volatility when it came to notionally safer investments.

The existing literature emphasises the importance of dividends as a means of 'keeping investors on side' for the period under consideration.[85] From an investor's perspective, *dividend yield* was a primary concern and there is also some evidence that dividend yields may have served as protection for outside investors in the Victorian period.[86] Our results do not provide support for this argument.[87] There is also some evidence that the higher the value of *individual holdings*, the more concerned investors were with risks related to informational

[82] Regression analysis of local preference in relation to the nearest stock exchange on which the security was listed, can be found in Table 3 of the online appendix to this paper.
[83] Foreman-Peck and Hannah, 'Divorce of ownership from control', p. 550.
[84] Rutterford, 'Equity valuation techniques'; idem, 'International diversification'.
[85] For a summary see Cheffins, *Corporate ownership*.
[86] Rutterford, 'Equity valuation techniques'; Campbell and Turner, 'Corporate governance'.
[87] The *Economist* in 1911 argued that: 'Yorkshire and Lancashire … take care not to send anything really profitable up to London' (cited in Cheffins, *Corporate Ownership*, p. 211). In other words, high dividend yields could be protection against asymmetries *but also* a motive to stay with local profitable firms. There could have been two countertendencies offsetting each other. This might explain our regression results with regard to dividend yields.

asymmetries, and thus the less likely to break with local bias. Nevertheless, this effect is not statistically significant in all model specifications. Table 9 does not offer evidence for the impact of non-linear voting schemes on local bias. Finally, the persistence of local bias remained very strong among Londoners. These statistically significant results in Table 9 with respect to London investors are consistent with the results reported in earlier sections.

VII

Foreman-Peck and Hannah examine London firms with over £1 million quoted share capital in 1911.[88] They argue that, given the very low levels of director ownership and voting control, 'quoted company ownership was already divorced from managerial control'.[89] One of the interesting questions that arises from this finding is how geographical dispersion of investors and local bias was influenced by the UK managerial revolution. According to Jefferys, as shareholder lists lengthened, shareholders started residing in areas remote from the firm's headquarters, thus making investment impersonal.[90] In other words, the dispersion of ownership is expected to be in line with the geographical dispersion of shareholdings (owners). Franks et al. offer evidence against this analytical assumption.[91] For their 1920s sample, they estimate that 'the greater the distance between the shareholders and the companies' headquarters, the more concentrated the ownership'.[92] Cheffins also argues that division between ownership and control is not necessarily related to the dispersion of shareholdings.[93]

[88] Foreman-Peck and Hannah, 'Managerial revolution'; idem, 'Divorce of ownership from control'.
[89] Foreman-Peck and Hannah, 'Managerial revolution', p. 1.
[90] Jefferys, *Business organisation*, pp. 386-7.
[91] Franks et al., 'Ownership'.
[92] Franks et al. 'Ownership', p. 4044.
[93] Cheffins, 'Does law matter', p. 468.

Using the calculations of the study of Foreman-Peck and Hannah of company directors, we create a subsample that contains the largest firms listed on the LSE during the 10 years either side of 1911 of our original full sample that matches Foreman-Peck's and Hannah's study.[94] We repeat the logit regressions of Table 9 adding two additional independent variables: *voting control of the board* and *directors' shareholdings* expressed as a ratio of the nominal size of the firm. Table 10 reports the results.

[TABLE 10 NEAR HERE]

Voting and share size control by directors both have a clear statistically significant but negative effect on the odds of the dependent variable. This means that directors' control over the firm was positively related to local bias; a finding in line with Jefferys but not Franks et al.[95] An increase in directors' voting control by one unit reduced the odds of breaking with local bias by roughly 10 to 20 per cent. The marginal effect of directors' ownership was by and large of equal size. It seems that the divorce of ownership from control was related to geographical dispersion. The above-mentioned positive effects on local investment bias of *the number of directors* and the *risk of debentures* survive in the results of Table 10 (the coefficients of the *value of individual investment* also have the same signs). Additionally, an increase in the value of holdings required to qualify as a director (*directorial qualifications*) undermined local bias. We also obtain, for this sample, a positive relationship between uncalled capital and local bias. The higher uncalled capital, the less likely to break with local bias. This result is to be expected, given the higher risk of ordinary shares with uncalled capital.

[94] Foreman-Peck and Hannah, 'Managerial revolution'. The details of this sample can be found in Table 5 of the online appendix of the paper.
[95] Jefferies, *Business organisation*; Franks et al., 'Ownership'.

In the context of our above discussion, one possible explanation of the negative relationship between local investment bias and directors' control can be that the diminishing role of directors in decision making made local trust networks less important for the average investor. In other words, local bias can be seen as a form of protection of minority holders against the expropriation by insiders.

VIII

This paper is the first systematic attempt to reveal and study local investment preference in the UK between the 1870s and the 1930s. While local bias is a standard theme in contemporary financial research (where 'local' usually captures the short distance between firms' headquarters and investors' residence), there is no relevant empirical research in the context of economic history, with the exception of Franks et al.[96] This paper uses a very large sample of nearly 30,000 shareholders based on 197 sets of share records, a large and representative database of the UK investor population across sectors and time. It investigates the structure and the evolution of local investment bias between shareholders and the companies in which they invested.

Investors in the past, as is also the case today,[97] tilted their portfolios towards locally headquartered stocks. Although there are some differences across sectors and security types, which are also influenced by the size of the firm (samples based on small firms might overestimate local bias), overall almost 70 per cent of investors lived within 25km of firms'

[96] Franks et al., 'Ownership'.

[97] Although, given developments in technology and financial engineering, the scale of local bias is now different. For instance, 'the typical U.S. household has about 30% of its portfolio invested in stocks headquartered within a 250-mile radius of the family's home. [...] In Finland, the median non-Helsinki-headquartered firm has 12% greater weight among investors in its municipality than it does among all Finnish investors. And, in mainland China, individuals invest 8% more in firms from their province of residence than a market capitalization portfolio would predict' (Seasholes and Zhu, 'Individual investors', p. 1987).

registered headquarters in the 1870s. This figure fell to 35 per cent by the 1930s. Investor proximity to firms' headquarters may be seen as an attempt to overcome informational asymmetries. Given that this development took place in an era with admittedly weak legal protection of small investors, it raises concerns about the historical validity of the so-called 'law matters' argument.

Our results show that there was a significant reduction in the effect of local bias over time. One of the reasons for this was the different patterns of local preference between investors who lived in London and investors resident in the rest of the UK. Local bias for Londoners remained strong and stable over the period (partly due to their preference for empire and to a lesser extent for foreign securities) whilst local preference for non-Londoners gradually declined. In fact, our calculations suggest that local bias gradually became a London bias. The same local bias can also be seen in relation to investor distance from the nearest stock exchange on which the security was listed. The great majority of Londoners in the sample invested only in LSE-listed securities. In addition, we find that local concentration of investment was generally higher than local concentration of investors; the majority of local investment came from wealthy investors. It seems that the latter were more sensitive to informational asymmetries.

The findings of this study offer evidence in favour of a particular interpretation of local investment preference: investor proximity to firms can be explained by relationships of trust developed between investors and the directors of the firms in which they invested. These informal trust networks, as already suggested by Franks et al., Mayer, and Campbell and Turner,[98] probably served as further protection to minority investors, thereby contributing to the successful development of financial markets. On average, investors showed preference

[98] Franks et al., 'Ownership'; Mayer, 'Trust in financial markets'; Campbell and Turner, 'Corporate governance'.

for locally headquartered shares and related informal trust networks with directors as a means of dealing with informational asymmetries.

We find that the number of directors is positively related to local bias, in particular for holders of ordinary shares, indicating that a large board size could support larger networks of local investors in riskier ordinary shares. Directors with prestigious titles have an even stronger effect on local bias. We also find that older firms are associated with a stronger local bias effect for the top 25 per cent of investors with respect to the value of their holdings. Given the stickiness of shareholdings over time, it is likely that older firms were carrying with them larger local trust networks of wealthy investors with large stakes in the firms. These investors were more sensitive to informational asymmetries. Investors were also more sensitive to the risk of notionally safe investments (debentures) and local bias was more likely to decline with the increase in the number of cross listings of a security.

In addition to the above, we offer evidence that high entry costs to the market (high nominal value of the security) and a large investment holding were both motives for investors to stay close to the stock market the security was listed. Our findings also show that (for large firms) local investment bias was associated with higher director corporate control. In other words, when directors' shareholdings and voting rights were important (allowing them to enjoy private benefits of control), there was a higher likelihood of local trust networks around these firms. In other words, the geographical dispersion of investment was positively related to the divorce between corporate ownership and control.

The paper describes local investment bias and offers possible historical explanations of it. It also exposes the weaknesses of the 'law matters' thesis in the interpretation of the UK financial developments.[99] Future discussions on the history of corporate finance, financial

[99] This is in line with current research. See section I above and also Musacchio and Turner, *Does the law*, for a comprehensive summary on the critiques of the 'law matters' argument.

development and the related growing ‘democratization’ of shareholdings should take the pattern of local bias into consideration as an important aspect of individual investor behaviour. The current study invites further research on local investment bias. In particular, it opens up two general research agendas. If local bias was strong in the era under investigation, how did it influence managerial decisions and strategies? At the same time, what are the consequences of local bias on the overall performance of UK corporations? Financial development in relation to minority shareholders is an important but generally underestimated theme in the financial history.

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Table 1 Sample summary: investor characteristics

panel (a)

Period	Female	Male	Shareholdings Sampled	Total records sampled	Total record population	Average shareholder population per record	Total issued capital of sampled records (£)	Average nominal capital per record (£)	Stock exchange issued capital railway and other shares (£m)*	Total issued capital as % of stock exchange capital*
1870s	91	520	611	12	1,290	108	971,932	80,994	924,500,000	0.11%
1880s	354	1,125	1,479	17	13,594	800	6,637,697	390,453	1,744,700,000	0.38%
1890s	797	2,409	3,206	28	25,393	907	47,920,931	1,711,462	2,931,200,000	1.63%
1900s	1,755	3,679	5,434	39	40,864	1,048	70,215,598	1,800,400	4,394,400,000	1.60%
1910s	2,266	4,483	6,749	41	72,152	1,760	90,741,246	2,213,201	6,226,300,000	1.46%
1920s	2,374	4,022	6,396	34	229,972	6,764	105,585,640	3,105,460	7,728,700,000	1.37%
1930s	2,365	2,842	5,207	26	241,755	9,298	114,546,833	4,405,647	7,520,200,000	1.52%
Total	*10,002*	*19,080*	*29,082*	*197*						

[a] Stock Exchange data taken from Morgan and Thomas, *Stock Exchange*, app. V, pp. 282-3.

Panel (b). Geographical distribution of investors and comparison with relevant estimations by Ellinger and Carter (1949) based on 1941 registers

	investors % in our sample							
	1870s	1880s	1890s	1900s	1910s	1920s	1930s	*Total*
London	22	33	34	28	27	22	18	*25*
Home counties & Sussex	14	17	17	18	18	19	22	*19*
Southern England	2	3	3	3	4	4	4	*4*
South western England	2	4	5	6	6	8	9	*7*
Wales	1	1	1	1	1	3	2	*2*
Western England	1	1	2	2	3	2	2	*2*
Eastern England	6	6	5	5	5	4	5	*5*
Midlands	10	9	9	9	9	10	10	*9*
Lancs and Cheshire	9	6	6	7	7	7	7	*7*
Yorkshire	30	15	11	12	11	9	9	*11*
Northern England	1	1	5	4	4	5	4	*4*
Scotland	1	3	3	4	5	6	7	*5*
Total	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*

Regional investor breakdown from Ellinger and Carter (1949) based on 1941 registers		
	population %	investors %
London postal district	9.7	23.8*
Home counties inc sussex	15.4	20.4
Southern England	3.5	5.3
South western England	3.1	5.1
Monmouth and Glamorgan	3	0.7
Rest of wales	1.8	1.3
Western England	3.5	2.3
Eastern England	3.7	3.7X
Midlands (incl oxon and beds)	12.7	9.3X
Lancs and Cheshire	12	6.2
Yorkshire	8.6	3.9
Northern England	4.9	3.3X
Scotland	9.9	10.0*X
Northern Ireland	2.6	1.5
Eire	5.6	1.8
Rest of world	-	1.4

Notes: The Ellinger and Carter sample may include companies registered in Scotland. This might lead to more investors in Scotland in their sample relative to our sample which includes only companies registered in England or Wales.

Table 2 Distance between investors' residences and companies' headquarters in km.

distance from HQ (km)		mean	median	standard deviation	observations	percent of security holders living: within 25km	within 10km	within 6km
all sectors	all securities	125	70	145	29,082	39.9	30.8	24.0
	private and unlisted securities	98	29	135	9,142	48.5	39.8	33.1
	private and listed securities	149	74	178	1,853	40.3	30.3	23.3
	public and listed securities	136	88	145	18,076	35.4	26.3	19.4
	ordinary shares	122	59	145	17,160	42.2	32.8	26.0
	preferred shares	136	95	150	9,868	34.4	25.9	19.3
	debentures	86	29	114	2,054	46.8	37.5	29.8
all securities	agriculture	141	61	174	2,848	43.4	34.6	24.6
	commerce	112	95	106	5,104	31.5	23.5	16.0
	utilities	71	8	112	2,298	59.1	52.0	48.5
	extraction	182	110	191	2,997	31.2	23.3	17.9
	finance	120	66	142	6,006	41.5	27.4	18.7
	manufacturing	139	102	147	4,784	36.6	28.3	24.5
	transportation	111	52	133	5,045	43.7	37.1	29.9
	domestic firms	116	67	130	19,591	39.0	29.5	23.7
	empire firms	115	26	156	3,218	49.9	41.8	32.4
	foreign firms	157	87	178	6,273	37.6	29.1	20.6

Notes: Foreign firms, as opposed to empire firms, are non-domestic firms that did not belong to the British Commonwealth. We divide our sample securities into three types: ordinary, preferred and debentures. We also divide into four categories of listing: (i) Public and listed, where the security may be a listed ordinary share, but could also be a listed preference share or debenture where the ordinary shares are also listed; (ii) Private and listed, where the security is listed but the ordinary shares of the firm are not listed; (iii) Private and unlisted, where neither the security in question nor the ordinary shares (if different) are listed; (iv) Public and unlisted, where the ordinary shares are listed but the security in question is not listed. This category has only 11 observations and so is excluded from the analysis.

Table 3 Distribution of investors by county of firm's headquarters

	% of Investors from:				
Firm headquarters	**London**	**Lancashire**	**Yorkshire**	**Other**	**Total**
London	40	5	5	49	100
Lancashire	14	31	12	43	100
Yorkshire	11	5	57	28	100
Other	19	6	7	68	100

Table 4

Percentage of investors living within 25km of companies' registered headquarters per decade

Panel (a)

	securities (all sectors)							sectors (all securities)		
	all	private and unlisted	private and listed	public and listed	ordinary shares	preferred shares	debentures	domestic	empire	foreign
1870s	69.2	68.7			69.2			77.0	54.8	45.7
1880s	60.4	65.1		52.4	59.7	48.1	83.9	66.6	69.9	47.9
1890s	46.6	57.7		39.9	48.8	35.9	55.7	49.1	47.4	37.2
1990s	39.3	43.3	46.5	37.2	42.4	33.6	41.2	38.6	52.6	38.7
1910s	38.3	46.4	30.2	35.6	41.4	32.6	39.9	35.7	52.6	36.8
1920s	35.0	37.1	43.5	32.8	35.0	34.4	38.7	32.4	43.9	37.1
1930s	35.0	43.4	43.1	31.9	34.5	35.0	45.6	35.1	41.5	32.8

Panel (b)

		firms of different size bands					
		x ≤ £100,000		£100,000 < x ≤ £1,000,000		x > £1,000,000	
		all firms	domestic	all firms	domestic	all firms	domestic
whole time period	**1870s**	65.69	68.84	74.89	93.71		
	1880s	67.30	72.40	58.38	60.56	56.80	
	1890s	62.47	65.37	56.21	64.95	34.26	29.68
	1900s	56.07	57.96	44.67	46.16	29.58	23.67
	1910s	46.69	49.70	41.72	37.99	32.71	31.39
	1920s	41.11	53.85	39.73	36.50	32.66	30.41
	1930s	40.32	43.62	48.79	55.00	32.18	31.51
	% within 25km	54.21	62.28	46.41	47.42	32.95	29.81
	% within 10km	47.47	56.66	35.06	34.61	24.82	21.83
	% witin 6km	42.03	54.47	27.24	27.23	18.48	16.51

Notes: see notes of Table 2.

Table 5 Geographical breakdown of local bias per decade: % of investors living within 25km of companies' registered headquarters (HQ).

	investors		firms	
	non-Londoners	Londoners	non-London HQ	London HQ
1870s	64.1	87.4	83.7	49.8
1880s	43.4	95.4	77.1	53.4
1890s	31.1	78.3	42.8	49.0
1900s	22.7	72.1	31.1	46.3
1910s	17.8	79.5	31.7	42.1
1920s	16.4	78.6	28.8	38.9
1930s	16.0	86.3	29.5	38.2

Notes: Our definition of London is based on census records in order to reflect increasing urbanisation over study period. Before 1900, London has been defined as the administrative county of London. After 1900, London includes all urban areas wholly or partly within a 10-mile circle from Charing Cross.

Table 6 Percentage of investors living within 25km of the nearest stock exchange on which the security is listed per decade.

	all sectors					
	all security types	private and listed securities	public and listed securities	ordinary shares	preferred shares	debentures
1870s						
1880s	52.4		52.4	54.8	48.1	100.0
1890s	51.2		51.2	52.9	43.6	57.9
1900s	47.8	46.5	47.7	50.7	45.3	44.4
1910s	44.2	37.4	44.9	44.5	42.3	50.2
1920s	44.8	43.5	44.9	44.4	44.8	48.1
1930s	42.1	43.0	41.9	45.6	38.4	47.1

Notes: see notes of Table 2.

Table 7 Percentage of investors holding a LSE listed security per decade.

	non-Londoners	Londoners
1870s		
1880s	85.59	98.97
1890s	78.59	98.05
1900s	90.62	99.71
1910s	87.80	98.00
1920s	82.66	96.88
1930s	79.95	95.15

Notes: see notes in Table 5.

Table 8 Geographical distribution of investment (panel a) and behaviour of the top 25% of investors in terms of the value of their holdings (panel b)

Panel (a)

		individual investment in £			percentage of investment		
		mean	median	st. dev.	within 25km	within 10km	within 6km
London registered firms	all securities	835	151	6116	49.1	44.3	38.5
	ordinary shares	972	113	7464	47.1	42.9	37.5
	preferred shares	461	156	2450	47.1	40.4	35.3
	debentures	1472	700	6089	62.1	56.7	48.4
non-London registered firms	all securities	699	100	4795	42.1	36.3	35.1
	ordinary shares	787	120	5096	43.5	36.8	35.4
	preferred shares	552	100	4623	42.8	39.5	38.9
	debentures	622	200	1128	20.4	13.5	12.0

Panel (b)

firms		top 25% investors				
		% of total investment			% of total investors	
		all	local (within 25km)	from London investors	local (within 25km)	from London
size≤£100,000	London based	82.9	51.5	47.6	13.70	12.63
	non-London based	84.0	39.4	11.8	13.16	4.12
£100,000<size≤£1,000,000	London based	90.5	48.7	46.8	13.25	12.59
	non-London based	87.2	21.2	18.0	8.44	5.50
£1,000,000<size	London based	86.2	46.1	43.6	11.28	10.73
	non-London based	90.2	56.2	20.9	6.63	5.98

Notes: See notes of Table 2.

Table 9 Determinants of local bias in relation to firm HQs: Logit regression results for the break with local bias.

independent variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
size	0.391***	0.236	0.291	0.331*	0.219	0.508	0.495	0.506	0.633**
	[0.118]	[0.144]	[0.188]	[0.199]	[0.173]	[0.362]	[0.353]	[0.404]	[0.317]
age	-0.010**	-0.011*	-0.010*	-0.008	-0.006	-0.008	-0.006	-0.005	-0.004
	[0.004]	[0.006]	[0.006]	[0.005]	[0.007]	[0.008]	[0.008]	[0.007]	[0.010]
age * top25 (dummy)					-0.003*		-0.004**	-0.004**	-0.004**
					[0.002]		[0.002]	[0.002]	[0.002]
value of nominal share	0.001***	-0.031**	-0.032	-0.035	-0.029	-0.038	-0.036	-0.037	-0.037
	[0.000]	[0.015]	[0.020]	[0.022]	[0.018]	[0.034]	[0.031]	[0.028]	[0.032]
number of stock exchanges	0.091**	0.146**	0.145**	0.148***	0.162**	0.117*	0.134**	0.146**	0.131*
	[0.038]	[0.060]	[0.059]	[0.051]	[0.067]	[0.066]	[0.066]	[0.058]	[0.069]
value of individual investment	-0.004	0	-0.010*	-0.008	-0.009*	-0.026**	-0.017*	-0.016	-0.019*
	[0.005]	[0.005]	[0.006]	[0.006]	[0.006]	[0.013]	[0.010]	[0.010]	[0.010]
number of directors		-0.039*	-0.046*		-0.051**	-0.056	-0.03		-0.032
		[0.021]	[0.024]		[0.026]	[0.050]	[0.048]		[0.049]
number of directors * ordinary shares (dummy)							-0.044***		-0.048***
							[0.016]		[0.016]
directorial qualifications			0.031	-0.009	0.038	0.148	0.169	0.2	0.182
			[0.132]	[0.123]	[0.130]	[0.200]	[0.194]	[0.189]	[0.200]
number of directors with titles				-0.114**				-0.035	
				[0.057]				[0.070]	
number of directors with titles * ordinary shares (dummy)								-0.118***	
								[0.033]	
non-linear voting scheme (dummy)					-0.479				0.081
					[0.403]				[0.405]
dividend yield (%)						0.009	0.015	0.013	0.019
						[0.021]	[0.022]	[0.020]	[0.023]
uncalled capital						0.001	0.002	-0.001	0.002
						[0.004]	[0.004]	[0.003]	[0.004]
risk (%)						0.010**	0.012**	0.012**	0.014***
						[0.005]	[0.005]	[0.005]	[0.005]
risk * debentures (dummy)							-0.047**	-0.047**	-0.050**
							[0.021]	[0.020]	[0.021]
London resident (dummy)	-2.296***	-3.048***	-2.830***	-2.715***	-2.844***	-2.459**	-2.511**	-2.431**	-2.570***
	[0.594]	[0.790]	[0.883]	[0.888]	[0.888]	[0.983]	[0.977]	[0.950]	[0.988]
time dummy	0.969***	0.790**	0.633	0.611	0.602	0.698	0.649	0.739*	0.624
	[0.288]	[0.330]	[0.405]	[0.385]	[0.434]	[0.478]	[0.463]	[0.437]	[0.475]
London resident * time dummy	-0.632	-0.334	-0.505	-0.658	-0.699	-0.801	-0.76	-0.899	-0.788
	[0.687]	[0.886]	[0.965]	[0.973]	[0.980]	[1.055]	[1.045]	[1.029]	[1.067]
constant	-0.364	0.736	0.748	0.627	0.976	-0.262	-0.366	-0.657	-0.777
	[0.308]	[0.453]	[0.589]	[0.581]	[0.613]	[1.352]	[1.300]	[1.213]	[1.156]
Number of observations	29082	25831	22665	22665	22091	14951	14951	14951	14755
pseudo R^2	0.275	0.352	0.349	0.349	0.374	0.337	0.342	0.344	0.356

Notes: Clustered standard errors in the brackets; standard errors have been corrected using the robust covariance matrix to allow for clustering at the share record level. In the above regressions the number of clusters varies between 198 and 74. The robustness of the above results has been checked using a nonparametric block bootstrap. * significance at the 10% level; ** significance at the 5% level; *** significance at the 1% level.

Table 10 Local bias and directors' board control. Regression results for the break with local bias.

	models					
independent variables	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
board shares as % of firm's size	-0.129*** [0.035]		-0.123*** [0.043]		-0.373*** [0.092]	
voting control of board		-0.085*** [0.025]		-0.079*** [0.029]		-0.250*** [0.070]
Age	-0.001 [0.005]	0.001 [0.005]	0.003 [0.010]	0.006 [0.009]	-0.031** [0.013]	-0.023 [0.015]
number of directors	-0.037** [0.015]	-0.033* [0.019]	-0.033* [0.017]	-0.027 [0.020]	-0.092*** [0.035]	-0.080* [0.046]
dividend yield (%)	0.020 [0.024]	0.028 [0.024]	0.013 [0.032]	0.015 [0.032]	0.049 [0.058]	0.056 [0.058]
value of nominal share	0.029 [0.023]	0.048* [0.028]	0.035 [0.026]	0.057** [0.029]	0.110* [0.066]	0.174** [0.083]
directorial qualifications	1.229*** [0.126]	1.175*** [0.127]	1.217*** [0.139]	1.162*** [0.135]	1.414*** [0.214]	1.321*** [0.207]
value of individual investment	-0.072 [0.050]	-0.073 [0.050]	-0.072 [0.050]	-0.072 [0.049]	0.019 [0.017]	0.013 [0.018]
uncalled capital	-0.005** [0.002]	-0.016*** [0.002]	-0.006* [0.003]	-0.017*** [0.002]	0.015** [0.006]	-0.018*** [0.005]
risk (%)	0.007 [0.005]	0.009** [0.004]	0.007 [0.005]	0.008 [0.005]	0.019** [0.008]	0.021*** [0.008]
risk * debentures (dummy)	-0.039*** [0.011]	-0.042*** [0.012]	-0.038*** [0.011]	-0.041*** [0.012]	-0.046*** [0.014]	-0.056*** [0.017]
non-linear voting scheme (dummy)			-0.168 [0.361]	-0.278 [0.358]	1.141** [0.534]	0.854 [0.588]
London resident (dummy)					-4.081*** [0.989]	-4.088*** [0.994]
constant	-0.27 [0.311]	-0.318 [0.312]	-0.336 [0.332]	-0.424 [0.325]	2.613*** [0.785]	2.430*** [0.810]
N	4482	4482	4482	4482	4482	4482
pseudo R^2	0.117	0.116	0.117	0.116	0.514	0.513

Notes: Bias corrected clustered standard errors in the brackets because in the above models clusters are 'few'. The robustness of the results has also been checked in comparison with the wild bootstrap-t procedure and the cluster adjusted t-statistics which are also suggested in similar cases of few clusters. * Significance at the 10% level; ** significance at the 5% level; *** significance at the 1% level.

Appendix: Variable definitions for regressions

Variables	Description	Data source
break with local bias (dependent variable)	Dummy variable equals 1 if the investor lives beyond 25km from the firm's registered headquarters	
Size	Categorical variable equals 1 if the company market capitalization is lower than £100,000, 2 if capitalization lies between £100,000 and £1,000,000, and 3 if capitalization is higher than £1,000,000	SEOI/Form E
Age	The company's age at the time of holding. This is equal to the difference between the 'Register Year' and the date of firm's incorporation. Our definition of 'age' includes the total actual age of the firm even after the name has changed.	SEOI/Form E
Number of directors	Total number of directors on the board	SEOI
Number of directors with titles	Number of directors on the board that are peers, knights, MPs, JPs or hold a military title	SEOI
Dividend yield (%)	Annual dividends devided by the average share price of the whole year	IMM/SEOI
Public and listed securities (dummy)	Dummy equals 1 if the investor holds a public and listed security	SEOI
Value of nominal share	Nominal value of the security	Form E
Directorial qualifications	Value of holdings a shareholder needed to qualify for a director in £1000	SEOI
Value of individual investment	The value of the individual investment in £1000	Form E/Share registers
Number of markets	Number of markets a security has been listed	SEOI
Uncalled capital	Difference between nominal capital and paid-up capital (the amount of capital that a shareholder is liable for)	SEOI/Form E
Risk (%)	The difference between higher and lower price of the year deivided by the average price of the same year.	IMM/SEOI
debentures (dummy)	Dummy equals 1 if the investor holds debentures	Form E/Share registers
Non linear voting scheme (dummy)	Dummy equals 1 if company has non-linear voting scheme	SEOI
London Resident (dummy)	Dummy equals 1 if the investor lives in London	
Time dummy	Dummy equals 1 after 1900	SEOI/Form E
Board shares as % of firm's size	The size of directors' ownership as ration of the total size of the company	Foreman-Peck and Hannah (2011)
Voting control of board	The percentage of votes controlled by directors	Foreman-Peck and Hannah (2011)
top25 (dummy)	Dummy equals 1 if the investor belongs to the top 25 per cent of all investors in the same firm according to the value of his/her holdings	
ordinary shares (dummy)	Dummy equals 1 for ordinary shares	

Notes: IMM= Investor's Monthly Manual, SEOI= Stock Exchange Official Intelligence. Before 1900, London includes the administrative county of London, while after 1900, all urban areas wholly or partly within a 10-mile circle from Charing Cross. These definitions are based on census records in order to reflect increasing urbanisation over study period.

On-line Table 1 Sample summary: company characteristics

Panel (a)

	Sample 1, share records= 197, investors=29,082													
Sectors	1870s		1880s		1890s		1900s		1910s		1920s		1930s	
	records	investors	records	investors	records	investors	records	investors	records	investors	records	investors	records	investors
Total	12	611	17	1479	28	3206	39	5434	41	6749	34	6396	26	5207
agriculture	1	84	1	82	1	84	5	449	7	943	5	690	4	516
commercial	1	85	1	81	5	530	6	1046	6	1134	5	1119	4	1109
extractive	1	11	2	70	2	205	2	232	5	1004	5	1064	2	411
financial	1	143	3	637	6	974	6	1129	5	975	4	1192	3	956
manufacturing	2	48	2	71	3	273	8	893	8	1152	6	1167	5	1180
transport and communications	3	142	4	394	7	762	8	1218	7	1169	6	854	4	506
utilities	3	98	4	144	4	378	4	467	3	372	3	310	4	529
foreign	2	92	3	541	4	608	6	1044	9	1486	8	1344	6	1158
domestic	9	435	11	659	21	2199	29	4118	26	4316	21	4172	17	3692
empire	1	84	3	279	3	399	4	272	6	947	5	880	3	357
London based	4	261	9	1046	15	1975	21	2940	25	4318	20	3930	17	3324
non-London based	8	350	8	433	13	1231	18	2494	16	2431	14	2466	9	1883

Panel (b)

	Sample 2, share records=115, investors=22,665									
Sectors	1890s		1900s		1910s		1920s		1930s	
	records	investors	records	investors	records	investors	records	investors	records	investors
Total	15	2511	26	4658	30	5718	25	5511	19	4267
agriculture	1	84	3	400	5	642	4	512	3	382
commercial	1	339	5	956	5	1034	4	1015	4	1109
extractive	1	172	1	180	3	766	4	947	2	411
financial	4	798	5	978	5	975	4	1192	3	956
manufacturing	2	252	5	815	6	1093	5	1132	3	756
transport and communications	5	642	6	1086	5	1031	4	713	2	362
utilities	1	224	1	243	1	177	0	0	2	291
foreign	3	550	5	969	7	1212	7	1252	5	1060
domestic	9	1562	19	3466	19	3860	14	3557	12	2984
empire	3	399	2	223	4	646	4	702	2	223
London based	11	1759	16	2629	21	3743	17	3554	15	3092
non-London based	4	752	10	2029	9	1975	8	1957	4	1175

Panel (c)

Sectors	Sample 3, share records=74, investors=14,951									
	1890s		1900s		1910s		1920s		1930s	
	records	investors	records	investors	records	investors	records	investors	records	investors
Total	10	1880	18	3509	15	2899	16	3338	15	3325
agriculture	0	0	2	316	2	297	2	294	1	169
commercial	1	339	3	877	2	448	4	958	4	1109
extractive	0	0	1	169	1	318	2	429	2	411
financial	3	717	4	849	2	418	2	379	2	496
manufacturing	2	252	2	243	2	335	3	818	2	487
transport and communications	4	572	5	812	5	906	3	460	2	362
utilities	0	0	1	243	1	177	0	0	2	291
foreign	2	480	5	969	5	923	6	1076	4	934
domestic	7	1257	12	2401	9	1834	9	2120	10	2255
empire	1	143	1	139	1	142	1	142	1	136
London based	6	1128	11	2151	11	2050	10	1799	11	2150
non-London based	4	752	7	1358	4	849	6	1539	4	1175

On-line Table 2 Development of cross listings per security type and decade (each cell reports the number of different securities).

number of stock exchanges	1870s			1880s			1890s			1900s			1910s			1920s			1930s		
	ord	pref	deb	ord	pref	deb	ord	pref	deb	ord	pref	deb	ord	pref	deb	ord	pref	deb	ord	pref	deb
0	12			13		1	17	5	1	21	8	1	19	7	1	15	7	1	9	2	
1				3	2	1	5	2		9	7	1	8	8	1	7	6	1	3	8	
2							2	2		2	1		2	4	1	2	3	1	1	4	
3							1			2	2		3	1	1	2	4		2	4	
4									2	3		2	1		1		1	1	1	1	1
5													1	2			2		2		
6							1	1	1				1	1		3	2		2	1	
7											1		1		1	1	1		1	1	
8												1	1			1			1		
9													1								
10														1							
11																					
12																			1		
13																2			1		
14																1					
15																			1		
Total	*12*	*0*	*0*	*16*	*2*	*2*	*26*	*10*	*4*	*37*	*19*	*5*	*38*	*24*	*6*	*34*	*26*	*4*	*25*	*21*	*1*

On-line Table 3 Local preference in relation to the nearest stock exchange (from investor residence) on which the security was listed. Logit regression results for the break with local bias.

	models								
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**	**(9)**
size	0.618***	0.585**	0.601***	0.660***	0.651**	0.423	1.003***	0.818**	0.879**
	[0.230]	[0.234]	[0.233]	[0.256]	[0.261]	[0.266]	[0.388]	[0.341]	[0.414]
age	0.009	0.011*	0.010	0.016**	0.015**	0.018**	0.015***	0.019***	0.016***
	[0.007]	[0.007]	[0.006]	[0.007]	[0.007]	[0.008]	[0.005]	[0.006]	[0.005]
value of nominal share	-0.037**	-0.040***	-0.036**	-0.042***	-0.039**	-0.042***	-0.032**	-0.032**	-0.032**
	[0.015]	[0.015]	[0.014]	[0.015]	[0.016]	[0.015]	[0.015]	[0.013]	[0.014]
number of stock exchanges	-0.159***	-0.206***	-0.199***	-0.230***	-0.218***	-0.230***	-0.227***	-0.229***	-0.224***
	[0.038]	[0.042]	[0.039]	[0.042]	[0.038]	[0.043]	[0.044]	[0.041]	[0.044]
value of individual investment	-0.067**	-0.062**	-0.070**	-0.068**	-0.077**	-0.066**	-0.055**	-0.051**	-0.054**
	[0.031]	[0.030]	[0.032]	[0.033]	[0.035]	[0.033]	[0.028]	[0.022]	[0.027]
number of directors		0.029***		0.033***		0.032***	-0.081		-0.08
		[0.010]		[0.012]		[0.012]	[0.050]		[0.049]
number of directors with titles			0.059		0.058			-0.049	
			[0.037]		[0.040]			[0.074]	
directorial qualifications				-0.029	0.019	-0.027	0.018	0.039	0.015
				[0.087]	[0.090]	[0.086]	[0.090]	[0.085]	[0.090]
non-linear voting scheme (dummy)						-0.395			-0.259
						[0.278]			[0.271]
dividend yield (%)							-0.010	-0.016	-0.008
							[0.012]	[0.011]	[0.012]
uncalled capital							0.003	0.000	0.003
							[0.003]	[0.002]	[0.003]
risk (%)							0.002	0.003	0.003
							[0.004]	[0.004]	[0.004]
risk * debentures (dummy)							0.012	0.017	0.017
							[0.017]	[0.017]	[0.020]
constant	-0.224	-0.251	-0.250	-0.413	-0.418	0.278	-0.665	-0.728	-0.328
	[0.617]	[0.653]	[0.638]	[0.685]	[0.703]	[0.725]	[0.726]	[0.699]	[0.913]
London resident (dummy)	-5.144***	-6.667***	-6.642***	-7.430***	-7.408***	-7.375***	-7.423***	-7.374***	-7.398***
	[0.956]	[0.947]	[0.940]	[1.184]	[1.176]	[1.193]	[1.166]	[1.178]	[1.169]
time dummy	0.543**	0.532*	0.542*	0.563*	0.601*	0.541	0.722**	0.674**	0.683**
	[0.257]	[0.277]	[0.282]	[0.319]	[0.320]	[0.330]	[0.308]	[0.308]	[0.325]
London resident * time dummy	-0.195	1.290	1.281	1.708	1.712	1.600	1.643	1.620	1.591
	[1.095]	[1.093]	[1.088]	[1.314]	[1.308]	[1.334]	[1.335]	[1.346]	[1.344]
Number of observations	19940	19826	19826	18722	18722	18148	14563	14563	14367
pseudo R^2	0.464	0.473	0.472	0.495	0.493	0.502	0.52	0.517	0.523

Notes: Clustered standard errors in the brackets; standard errors have been corrected using the robust covariance matrix to allow for clustering at the share record level. In the above regressions the number of clusters varies between 94 and 71. The robustness of the above results has also been checked using a nonparametric block bootstrap. * Significant at the 10% level; ** significant at the 5% level; *** significant at the 1% level.

On-line Table 4 Regressions at the firm level

Dependent variable: % of investors living beyond 25km of companies' HQ

	(1)	(2)	(3)	(4)
time (dummy)	7.798**	10.744***	9.837***	9.750***
	[3.813]	[3.866]	[3.597]	[3.580]
London_HQ (dummy)	-7.952**	-7.340*	-11.731***	-11.373***
	[3.224]	[3.935]	[3.570]	[3.757]
size	6.938***	6.768**	7.324***	7.367**
	[2.410]	[2.694]	[2.665]	[2.829]
age	0.066	0.037	-0.038	-0.027
	[0.051]	[0.072]	[0.064]	[0.060]
value of individual investment (average)	0	-0.001***	-0.009***	-0.009***
	[0.000]	[0.000]	[0.002]	[0.002]
number of directors		0.168	0.226	
		[0.271]	[0.251]	
directorial qualifications			0	0
			[0.002]	[0.002]
number of directors with titles				0.348
				[0.622]
constant	40.460***	37.247***	47.209***	47.237***
	[5.347]	[7.103]	[7.193]	[7.463]
Observations	198	144	115	115
R^2	0.153	0.283	0.409	0.408

Robust standard errors in brackets
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

On-line Table 5 Details of sample of regressions of Table 10

	Sample 4, share records=20, investors=4,482					
Sectors	**1900**		**1910**		**1920**	
	records	**investors**	**records**	**investors**	**records**	**investors**
Total	8	1847	8	1784	4	851
agriculture						
commercial	2	679	1	303	1	266
extractive	1	169	1	318		
financial	1	288	2	418	1	218
manufacturing	1	187	1	201		
transport and communications	3	524	3	544	2	367
utilities						
foreign	2	486	2	460	2	443
domestic	5	1222	5	1182	1	266
empire	1	139	1	142	1	142
London based	5	981	6	1265	4	851
non-London based	3	866	2	519		